



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2020-0068; Notice 1]

General Motors LLC, Receipt of Petition for Decision of Inconsequential Noncompliance

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Receipt of petition.

SUMMARY: General Motors LLC, (GM) has determined that certain model year (MY) 2017–2020 Cadillac XT5, MY 2020 Cadillac XT6, and MY 2017–2019 GMC Acadia motor vehicles do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 302, *Flammability of Interior Materials*. GM filed a noncompliance report dated May 29, 2020. GM subsequently petitioned NHTSA on June 19, 2020, for a decision that the subject noncompliance is inconsequential as it relates to motor vehicle safety. This notice announces receipt of GM’s petition.

DATES: Send comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are invited to submit written data, views, and arguments on this petition. Comments must refer to the docket and notice number cited in the title of this notice and submitted by any of the following methods:

- Mail: Send comments by mail addressed to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, S.E., Washington, DC 20590.
- Hand Delivery: Deliver comments by hand to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room

W12-140, 1200 New Jersey Avenue, S.E., Washington, DC 20590. The Docket Section is open on weekdays from 10 am to 5 pm except for Federal holidays.

- Electronically: Submit comments electronically by logging onto the Federal Docket Management System (FDMS) website at <https://www.regulations.gov/>. Follow the online instructions for submitting comments.
- Comments may also be faxed to (202) 493-2251.

Comments must be written in the English language, and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that comments you have submitted by mail were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to https://www.regulations.gov, including any personal information provided.

All comments and supporting materials received before the close of business on the closing date indicated above will be filed in the docket and will be considered. All comments and supporting materials received after the closing date will also be filed and will be considered to the fullest extent possible.

When the petition is granted or denied, notice of the decision will also be published in the **Federal Register** pursuant to the authority indicated at the end of this notice.

All comments, background documentation, and supporting materials submitted to the docket may be viewed by anyone at the address and times given above. The documents may also be viewed on the internet at https://www.regulations.gov by following the online instructions for accessing the docket. The docket ID number for this petition is shown in the heading of this notice.

DOT's complete Privacy Act Statement is available for review in a Federal Register notice published on April 11, 2000 (65 FR 19477-78).

SUPPLEMENTARY INFORMATION:

I. Overview: GM has determined that certain MY 2017–2020 Cadillac XT5, MY 2020 Cadillac XT6, and MY 2017–2019 GMC Acadia motor vehicles do not fully comply with the requirements of paragraphs S4.2 and S4.3(a) of FMVSS No. 302, *Flammability of Interior Materials* (49 CFR 571.302). GM filed a noncompliance report dated May 29, 2020, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. GM subsequently petitioned NHTSA on June 19, 2020, for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential as it relates to motor vehicle safety, pursuant to 49 U.S.C. 30118(d) and 30120(h) and 49 CFR part 556, *Exemption for Inconsequential Defect or Noncompliance*.

This notice of receipt of GM’s petition is published under 49 U.S.C. 30118 and 30120 and does not represent any Agency decision or other exercise of judgment concerning the merits of the petition.

II. Vehicles Involved: Approximately 166,938 MY 2017–2020 Cadillac XT5, MY 2020 Cadillac XT6, and MY 2017–2019 GMC Acadia motor vehicles manufactured between October 29, 2015, and March 20, 2020, are potentially involved.

III. Noncompliance: GM explains that the noncompliance is that subject vehicles are equipped with ventilated front seats that do not meet the flammability requirements set forth in paragraphs S4.2 and S4.3(a) of FMVSS No. 302. Specifically, when the four composite layers of the seat-vent mat assembly are tested separately, one composite layer did not meet the burn rate requirement because it had burn rates ranging between 186 mm/min to 189 mm/min, therefore, it exceeded the maximum burn rate of 102 mm/min.

IV. Rule Requirements: Paragraphs S4.2 and S4.3(a) of FMVSS No. 302 includes the requirements relevant to this petition. Any material that does not adhere to other materials at every point of contact must meet the 102 mm per minute burn rate requirement when tested

separately. Any portion of a single or composite material which is within 13 mm of the occupant compartment air space shall meet the requirements.

V. Summary of GM's Petition: The following views and arguments presented in this section, "V. Summary of GM's Petition," are the views and arguments provided by GM. They have not been evaluated by the Agency and do not reflect the views of the Agency. GM described the subject noncompliance and contended that the noncompliance is inconsequential as it relates to motor vehicle safety.

In support of its petition, GM submitted the following:

1. Background: Noncompliance Summary and Seat Assembly

- a. Noncompliance Description: The seat cushions in the subject vehicles equipped with ventilated front seats fail to conform, in part, to S4.2 of FMVSS No. 302. Because certain components (or composite layers) of the seat-vent mat assembly ("vent bags") do not "adhere to other material(s) at every point of contact," each should be tested separately. When tested separately, one of the four composite layers did not meet the burn rate requirement. All other components of the seat required to meet FMVSS No. 302 comply with the standard.

The one noncompliant "layer" is a composite consisting of five different materials, and only one of the five—a very thin pressure sensitive adhesive tape ("adhesive tape") does not comply with the flammability requirements. It does not comply with the 102 mm/min requirement only when the test sample also contains a cushion scrim ("scrim") that shields the flame from the self-extinguishing foam just above it. That unique combination that includes the adhesive tape, scrim, and a small amount of foam only exists in an FMVSS No. 302 test sample—it does not exist as a stand-alone group of materials exposed to flame in real-world vehicle seats. As installed in the seat, the very thin adhesive tape and scrim are roughly 11.4 mm from the occupant air space underneath the

seat and are sandwiched among many other materials, including the self-extinguishing seat foam.

- b. The Vent Bag Assembly: The vent bag assembly (or “vent bags”) are designed to pull air into and through the seat to cool the occupant. The vent bag is positioned below the seat cushion and attaches via a very thin adhesive strip to the lower seat cushion. The vent bags are comprised of multiple layers of materials. The scrim layer does not extend uniformly in a layer. It is localized around the seat foam. The scrim’s presence on a sample depends on the location where the sample is cut for FMVSS No. 302 testing: the sample may not have any scrim if cut in the center, or it may have scrim if cut closer to the edges of the seat.
- c. Because the filler material within the vent bag was not adhered at every point of contact with the composite layer above, the 13 mm as measured from the base of the composite layer included the layer 1 and, for layer 3, includes a small portion of scrim. The 13-mm layer 3 created for FMVSS No. 302 testing purposes has just the right combination of adhesive tape and scrim along with a truncated seat foam layer that it does not meet the 102 mm/min burn rate requirements.
- d. The Layers Tested: The vent bag assembly has four layers that must be tested separately for FMVSS No. 302. Layer 1 is adjacent to the occupant airspace under the seat. Layers 3 and 4 are closest to the seated occupant but furthest from the airspace under the seat.

The following materials make up each layer:

- Layer 1: Bottom Felt plus Film
- Layer 2: Filler
- Layer 3: Film plus Top Felt plus PSA tape plus Cushion Scrim plus Cushion Foam
- Layer 4: Film plus Top Felt plus PSA tape plus Cushion Foam

Layers 3 and 4 are adhered at all points and are tested as a composite. The seat foam is cut to comply with S4.2.2, which requires a maximum composite thickness of 13 mm. The difference between layer 3 and layer 4 is the presence of scrim. Two samples (layers 3 and 4) were taken of the composite material at different locations of the seat to ensure one captured the scrim. Layer 3 was cut to capture scrim and layer 4 was cut closer to the center of the seat and does not capture any scrim. The only layer that did not meet FMVSS No. 302 is layer 3. All other layers meet the burn rate requirements. When testing layer 3 in accordance with FMVSS No. 302, which required a flame applied directly to the felt with film liner, the burn rates ranged from 186 mm/min to 189 mm/min and did not pass the requirements of FMVSS No. 302 S4.3(a). Layer 4, however, which is the same composite but without the scrim, had a burn rate of only 12 mm/min to 24 mm/min. The higher burn rates for layer 3 were caused by the unique interaction of the adhesive tape, scrim, and truncated seat foam. The scrim is flame-retardant, but the thin layer of adhesive tape is not. In layer 3, the scrim shields the flame from interacting with and being slowed down or extinguished by the self-extinguishing foam above. With layer 4, which had a much lower burn rate, the foam has a bigger effect and significantly slows down the burn rate.

2. GM's Reasoning: GM believes that this FMVSS No. 302 noncompliance is inconsequential to motor vehicle safety for the following reasons:

- a. The seat vent bag assembly as installed in the vehicle meets FMVSS No. 302 flammability requirements. As installed in the vehicle, the vent bag meets FMVSS No. 302 requirements. The flammability issue is created not by the materials in the seat but by the unique way in which the 100 x 356 mm section is selected for purposes of FMVSS No. 302 testing. When that section is taken from the edge of the seat, the 13-mm composite contains portions of scrim

which, in combination with the adhesive tape, increases the burn rate of that sample (i.e., layer 3). FMVSS No. 302 requires the flame to be applied directly to the felt with film liner, which is adjacent to the adhesive tape and cushion scrim, and that interaction limited the foam's ability to slow down the burn rate and resulted in a rate exceeding the 102 mm per minute requirement.

In the real world, however, the adhesive tape and scrim would never be exposed to an open flame because they are well encased from the airspaces below (and above) the seat by layers of self-extinguishing or flammability compliant materials. Specifically, the scrim is encased by at least 11.4 mm of materials from the airspace below. Encasing the scrim from the airspace below are two layers of the felt [with]film liner, the filler, and the adhesive tape. The felt with film liner has a burn rate of 42 mm/min and the filler is self-extinguishing. Moreover, the as-installed seat has more than 13 mm of self-extinguishing seat foam above the adhesive tape and scrim, and the scrim is localized and only exists in certain areas. Taken as a whole, the adhesive tape and scrim have a negligible effect on the overall burn rate. Layer 4, which is a closer representation of the relative percentage of component materials, has a burn rate of only 12 mm/min to 24 mm/min.

The purpose of FMVSS No. 302 is to “reduce the deaths and injuries to motor vehicle occupants caused by vehicle fires, especially those originating in the interior of the vehicle from sources such as matches or cigarettes.” The combination of adhesive tape, scrim, and truncated seat foam that is causing the FMVSS No. 302 issue would never be exposed to an open flame or an ignition source (like matches or cigarettes) in its installed application, because they are installed within and surrounded by complying materials that meet FMVSS No. 302 standards. In the real world, a flame emanating from the occupant air space

below the seat must travel through the felt [with]film liner and the filler before even having the potential to contact the adhesive layer or scrim.

- b. GM testing and design review of the vent bag assembly and its components indicate that the chance of fire or flame induced by a malfunctioning ventilator is essentially zero. Unlike the situation in Toyota's February 21, 2014, petition for inconsequentiality, which NHTSA granted, (*see* 80 FR 4035, January 26, 2015) there are no heater elements in GM's seat. In contrast, the subject seats contain a seat ventilator which circulates unheated air. The ventilator and associated motor are at least 27 mm from the adhesive tape and scrim and are separated by self-extinguishing and flammability-compliant materials. There is essentially zero risk that the seat ventilator or the associated motor could cause the seat materials to ignite.
- c. The adhesive tape is a very small portion of the soft mass of the seat and has an insignificant (i.e., negligible) adverse effect on the overall burn rate. The adhesive tape is only 0.03% of the seat mass and is positioned well above (>11.4 mm) the occupant air space within the seat material stack. As installed in the vehicle, the adhesive tape makes up such an extremely small portion of the seat that its burn rate will have essentially no adverse effect on the burn rate of the vent bag assembly. Therefore, the adhesive tape would have an insignificant adverse effect on the interior material burn rate and the potential for occupant injury due to interior fire.
- d. The same seats comprised of the same materials meet FMVSS No. 302 requirements. The exact same seats with the exact same materials meet FMVSS No. 302 when heat is used during the assembly process, which results in the filler layer (layer 2) adhering to the upper felt with film material of layers 3 and layer 4.

- e. GM is not aware of any injuries or customer complaints associated with this condition.

3. **NHTSA has granted similar inconsequential petitions in the past.** NHTSA has granted at least two petitions for inconsequentiality for similar issues: Toyota's February 2014 petition for inconsequential noncompliance (*see* 80 FR 4035, January 26, 2015), and Cosco Inc.'s 1998 petition for a similar issue. (*See* 63 FR 30809, June 5, 1998.)
4. **Correction of Noncompliance:** To address this technical noncompliance, GM's suppliers have begun to use the "heated surface" molding process which results in the filler and felt-with-film liner to be adhered at all points. This process will be used to correct the noncompliant vehicles in production and parts in service inventory. Through testing, GM confirmed that the vent bags assembled with this process comply with S4.3(a) for FMVSS No. 302. This noncompliance issue was addressed in production for all applicable vehicles manufactured on or after May 26, 2020.

GM concluded by again contending that the subject noncompliance is inconsequential as it relates to motor vehicle safety, and that its petition to be exempted from providing notification of the noncompliance, as required by 49 U.S.C. 30118, and a remedy for the noncompliance, as required by 49 U.S.C. 30120, should be granted.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, any decision on this petition only applies to the subject vehicles that GM no longer controlled at the time it determined that the noncompliance existed. However, any decision on this petition does not relieve vehicle distributors and dealers of the prohibitions on the sale, offer for sale, or introduction or delivery for introduction into interstate commerce of

the noncompliant vehicles under their control after GM notified them that the subject noncompliance existed.

(Authority: 49 U.S.C. 30118, 30120: delegations of authority at 49 CFR 1.95 and 501.8)

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